popliteal nerve (n. tibialis) until it arrives on a level with the heads of the gastrocnemius muscle is not justified by common usage among anatomists. An error, in the commission of which the author is not alone, is in the spelling "tendo-Achilles."

The judicious use of quotations is to be commended, but Mr. Share-Jones is not well advised in the insertion of too long quotations. We feel that the work would have lost nothing in clearness, and would have gained something in terseness, had the quotations been condensed into a few lines or omitted altogether. There seems little point, for example, in the views of Percival on "ossific diathesis," quoted by W. Williams and re-quoted by our author.

The fact that the author treats his subject so largely from the surgical side leads one to examine the surgical paragraphs with even more care than those which are purely anatomical. Surgery certainly is an art, and not one of the exact sciences, and, therefore, affords great scope for difference of opinion. Mr. Share-Jones, consequently, is entitled to express whatever views he may happen to hold, but he need not be surprised if his readers occasionally disagree with him. It may be doubted, for instance, if it is possible in cases of so-called deferred fracture of the tibia to detect the line of fissure by palpation. It is a matter of opinion whether crepitus can be elicited by manipulation in fractures through the acetabulum. There are those who would say that crepitation can be best produced by movements by the horse himself.

The professional reader, moreover, may inquire why epiphyseal fractures of the femur of young animals are omitted, or, in fracture of the femur, how the bony fragments are to be retained in position, or what may be the value of periosteotomy in "spavin," and how it is done. On many other points, it is safe to say, the practitioner will feel irritated at paucity of information, or will dissent, sometimes strongly, from the views expressed.

From what has been said it is clear that the present part of the "Surgical Anatomy of the Horse" is not without blemish to detract from its numerous merits.

GLASS DECORATION.

Decorative Glass Processes. By A. L. Duthie. Pp. xii+267. (London: A. Constable and Co., Ltd., 1908.) Price 6*s*. net.

THE book before us contains a minutely detailed account of a number of processes employed for the purpose of producing architectural decorative work in glass. Beginning with an account of the various kinds of glass available for such work, and indulging in a retrospect of glass-working that takes the reader back to ancient Egypt, Mr. Duthie describes the production of leaded lights, the technique of glass painting and staining, and the various processes which depend upon the partial obscuring of the glass by means of fluorides or by the action of the sandblast. Finally gilding, silvering, mosaic, and a number of special processes are described.

Mr. Duthie's account of the varieties of glass available for decorative work is interesting especially as regards the production of "antique" glass with its intentional "imperfections," such as bubbles, striæ and partial devitrifications. On the other hand, the statement that polished plate glass is made by polishing "rough cast plate" serves to indicate that the author is not intimately acquainted with this side of glass manufacture.

In his detailed account of the technique of the various crafts concerned in the production of decorative glass, Mr. Duthie is, perhaps, somewhat uninteresting to the general reader—the descriptions are too minutely detailed and given in rule-of-thumb manner—while for the practical worker the book may serve as a useful reference for recipes not in constant use, but would scarcely be adequate for the needs of a learner. A larger amount of space devoted to the principles of the technique, even at the expense of some of the detailed directions, would have been preferable. Ideas and principles are, however, only introduced in reference to the questions of art involved in the designs for various types of work. This is, perhaps, scarcely the place to discuss these questions, but the fine illustrations with which the author's views are exemplified deserve special comment. Some of these, such as Fig. 15 (leaded panel), Fig. 31 (triple embossing), and Fig. 38 (electro-copper glazing), are particularly fine; the latter is also of special interest technically, as it illustrates a very successful application of an electro-deposition process to glass work. In this work the lead flanges or "calms" are replaced by thin strips of copper laid between the different pieces of coloured glass; upon the projecting edges of these bands ledges of copper are electrodeposited, flanges being thus formed which grip the glass and consolidate the whole panel.

Scientific readers will be particularly interested in the manner in which the action of hydrofluoric acid and of soluble fluorides is utilised for the production of glass surfaces of various degrees of opacity, ranging from the "dead white" of the pure fluoride to the practically clear glass left by the pure acid. As Mr. Duthie remarks, however, it is certainly surprising to find this etching process known by the trade term "embossing," a term which rather suggests the products of the pressed-glass factory. The glass industry is, apparently, the victim of a very curious system of nomenclature; thus the term "metal" is always applied to glass, while such curious terms as "ambitty" (spelt "anbitty" in some places in the book), "larrykin" and "cullett" are found in a short glossary at the end of this book. To the words named in that list Mr. Duthie should, however, have added another, which he employs, apparently, without being conscious of anything unusual—he refers to the process of etching away layers of glass as "aciding" the glass and this can hardly be regarded as a welcome or even a legitimate addition to the language. Similarly, the continual loose reference to hydrofluoric acid as "fluoric acid" is not to be commended, although no doubt widely incorporated in workshop slang.

In spite of these criticisms, and some further

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defects from the literary point of view, the book is to be welcomed as an addition to the scanty literature of glass from the pen of a practical glass worker, and it will no doubt find many appreciative readers among those interested in decorative glass.

W. R.

ASTRONOMY, MYTH, AND LEGEND.

The Judgment of Paris, and some other Legends Astronomically Considered. By the Hon. Emmeline M. Plunket. Pp. iv+199; illustrated. (London: J. Murray, 1908.) Price 7*s*. 6*d*. net.

NO archæologist denies that in the "myth-making age" (whenever that may have been; we are still making myths now) our primitive ancestors were often struck with the appearance of the heavenly bodies, and made pretty stories out of them. But what he does deny is that, at any rate in the case of Greece, the majority of the myths, or anything like the majority, are of celestial origin. We know, also, far too much about the probable early history of the Ægean countries to believe for a moment that many Greek *legends* (as distinct from myths) are connected with the movements of the sun, moon, and stars. But the Hon. Miss Plunket finds an astronomical explanation for all legends as well as myths. She confuses the two; for her Achilles or Agamemnon are as unreal as Aphrodite and Hera, and all four are but symbols, so to speak, of some aspect of the heavenly bodies at some time or other.

To the Greeks Aphrodite and Hera were as real as Achilles or Agamemnon. Miss Plunket reverses the process. Both she and the Greeks are equally uncritical in their method! For her everything is unreal and astronomical. But why should not some of the myths, and a few of the legends, be astronomical, and the rest not? After all, we are not all of us star-gazing now, and there is no proof that our "myth-making" ancestors were more given to the pursuit than we are. An archæological discovery has shown us that many of these astronomical explanations of legend are mere fantasy, as we fear much of Miss Plunket's book is. There is far more earthy reality about these stories than she thinks. The murder of Agamemnon by Klytaimnestra and Aigisthos, in which Miss Plunket sees "mythically chronicled an eclipse occurring at or close to the season of the winter solstice," would be considered by the modern archæological historian to be a legendary reminiscence of a real tragedy of a particularly ghastly character perpetrated in the royal burg of Mycenæ at some time during the period of Achaian domination, no more. Why should it be anything else? Why be astronomical? Why should the Greeks have woven all these cryptic legends about stars?

To regard the Trojan war, too, as an astronomical myth after the discoveries of Schliemann is to exhibit a peculiar point of view. Miss Plunket calls it a "conviction." "Convictions" are unscientific; they are merely inverted prejudices, and no scientific worker has any business to be dominated by them. We note, however, from many indications, that Miss Plunket would be scientific enough could she but conceive the possibility that every myth and legend is not necessarily of astronomical origin. With her suggestion that the Gorgon's head is originally the cold full moon we are in cordial agreement. We have then in the Perseus story a queer folk-tale of a sort of Jack-the-Giant-Killer who went up into the sky and brought the moon down, as the primitive mind, like the child-mind now, could easily conceive the wonderful person as doing. In this there is nothing astronomical; and the Medusa on the shield of Athene may very well be the full moon on the body of the goddess of the grey-blue night-sky, γλαυκῶπις Ἀθήνη; why not? But there is no astronomical complication here, only a general sky-goddess with the moon on her, as it naturally would be. Miss Plunket's explanation of the term Τριτογένεια for Athene as "born of Trita," a deity of the Avesta, is at least more probable than the very doubtful connection with Lake Tritonis in Libya. The author makes other suggestions which will compel the most sceptical critic to read her work with attention and respect, even though he may differ *toto caelo* from its main contentions.

H. R. HALL.

HEAT FOR ENGINEERS.

Heat for Engineers. A Treatise on Heat, with Special Regard to its Practical Applications. By Chas. R. Darling. Pp. xii+430. (London: E. and F. Spon, Ltd., 1908.) Price 12*s*. 6*d*. net.

ANY author who attempts to cover the syllabus outlined in the preface and contents of this treatise needs considerably more than 415 pages of the ordinary-size text-book in which to do that properly. Too much has been attempted, and a great opportunity has not been made use of to the fullest advantage. Some portions of the book are elementary to a degree which irritates; other portions are so advanced that needful and useful sections have been sacrificed in order to keep the size of the book within the usual limits. Clearly the author should have divided his matter into two volumes, one elementary and the other advanced. In the preface there is rightly expressed the opinion that "the numerous applications of heat in modern industrial processes" . . . do not "receive more than the briefest mention in ordinary treatises on heat," and it is the avowed object of this book to remedy that omission. Yet "Practical Heat Engines" are disposed of in sixteen pages, and one searches in vain for a mention of that most interesting and instructive heat motor—the Diesel engine. There is nothing about evaporators; a study of the action of multiple-effect evaporators especially conveys much that is useful to the engineering student. We obtain the impression that the book is meant for the student in physics, and *not* for the engineer. If that is conceded, then there is more reason for its contents. In any case, however, space might have been found for dealing with the errors of the aneroid barometer, since the instrument itself is considered and described. An improvement in the arrangement of the contents

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